

Amendments to the Specification

Please replace the paragraph beginning on page 1, line 3, with the following rewritten paragraph:

The technical sector of the present invention is that of the vibro-acoustic filtering and damping of vibrations of mechanical origin transmitted between two structures so as to mutually protection-protect them from their vibratory environment.

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KB 6-7-10

Please replace the paragraph beginning on page 1, line 13, with the following rewritten paragraph:

To ensure the system's mechanical strength, the structures or elements must be connected together by fastenings that integrate-provide sufficient static or dynamic rigidity.

Please replace the paragraphs beginning on page 1, line 35, with the following rewritten paragraphs:

Elastic suspension, despite its ensuring static and dynamic strength with potential vibratory and/or acoustic gains, has a very slightly damped specific resonance, injecting at this resonating frequency, redhibitory levels in the structure to be protected (low frequency displacements or accelerations with respect to resonant modes).

Patents FR-2 674 590 and JP-2 658 887 describe hydraulic suspensions constituted by chambers filled with a viscous fluid communicating by a narrow channel. When the suspension is stressed by a shock or by vibrations inducing relative displacements, the fluid will preferentially circulate towards one chamber or other depending on the direction of excitation, with a laminating function that will convert the vibratory energy into local heat. The incompressibility of the fluid improves suspension strength and its circulation provides damping for the stresses introduced. These suspensions are largely used in the car industry, in

*Katie Bancroft*

Application No. 10/566,645

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The technical sector of the present invention is that of the vibro-acoustic filtering and damping of vibrations of mechanical origin transmitted between two structures so as to mutually protection-protect them from their vibratory environment. IDC-A1,AMD

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Please replace the paragraph beginning on page 1, line 13, with the following rewritten paragraph:

To ensure the system's mechanical strength, the structures or elements must be connected together by fastenings that integrate-provide sufficient static or dynamic rigidity.

IDC-A2,AMD

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Please replace the paragraphs beginning on page 1, line 35, with the following rewritten paragraphs:

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Patents FR-2 674 590 and JP-2 658 887 describe hydraulic suspensions constituted by chambers filled with a viscous fluid communicating by a narrow channel. When the suspension is stressed by a shock or by vibrations inducing relative displacements, the fluid will preferentially circulate towards one chamber or other depending on the direction of excitation, with a laminating function that will convert the vibratory energy into local heat. The incompressibility of the fluid improves suspension strength and its circulation provides damping for the stresses introduced. These suspensions are largely used in the car industry, in

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## METHOD AND DEVICE FOR FILTERING AND DAMPING VIBRATIONS

IDC-A1\_Sub,AMD

The technical sector of the present invention is that of the vibro-acoustic filtering and damping of vibrations of mechanical origin transmitted between two structures so as to mutually protect them from their vibratory environment.

Any element or structure included in a mechanical system incorporating a source of vibrations of mechanical origin receives vibratory and/or acoustic excitations from the source, modified or even amplified by the dynamic response of each of the structural elements constituting the system.

To ensure the system's mechanical strength, the structures or elements must be connected together by fastenings that integrate sufficient static or dynamic rigidity.

IDC-A2\_Sub,AMD

To reduce the vibratory energy transmitted from one structure to another when these are mechanically connected, two known types of solution are used to date: filtering and damping.

The first solution consists in mechanically filtering the input excitations of the structure to be protected. The effectiveness of the filtering system is intrinsically linked to the resonant frequency of the system under load: the lower the cut-off frequency, the more effective the system. However, this flexibility caused by a lower cut-off frequency, leads to great motion space under load, incompatible with the immediate environment and causing the premature wear of the system.

For this, filtering may be obtained by integrating flexible elastic (leaf spring, metallic or composite spring) or hydraulic-elastic (fluid) or hyper-elastic (elastomer, silicon, specific alloy) systems to the interfaces of the structure to be protected.

Elastic suspension, despite its ensuring static and dynamic strength with potential vibratory and/or acoustic gains, has a very slightly damped specific resonance, injecting at this frequency, prohibitory levels in the

IDC-A3\_Sub,AMD,M

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